#4

SEQUENCE LISTING

<110> Kleanthous, Harold
Lissolo, Ling
Tomb, Jean-Francois
Miller, Charles
Al-Garawi, Amal

<120> Helicobacter GHPO 1360 and GHPO 750
Polypeptides and Corresponding Polynucleotide Molecules

<130> 06132/037002

<140> US 10/039,183
<141> 2002-01-03

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acg act gat tct tca gca ggc gtg tta gcg aca gtg gat ggc aga cct 261
Thr Thr Asp Ser Ser Ala Gly Val Leu Ala Thr Val Asp Gly Arg Pro
20 25 30

atc act aaa agc gat ttt gac atg att aag caa cga aat cct aat ttt 309
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aaa acc gaa gat gag gct aaa cgg att att tct gag att gac aaa cag   645
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145                 150                 155                 160

cca aag gct aaa aaa gaa gct aaa ttc att gag tta gcc aat cgg gat   693
Pro Lys Ala Lys Lys Glu Ala Lys Phe Ile Glu Leu Ala Asn Arg Asp
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aaa ttc caa aag aac caa atg gct ccg gat ttt tct aaa gcc gct ttc   789
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Gly Tyr His Ile Ile Tyr Leu Ile Ser Lys Asp Ser Pro Val Thr Tyr
225                 230                 235                 240

act tat gaa cag gct aaa cct acc att aag ggg atg tta caa gaa aag   933
Thr Tyr Glu Gln Ala Lys Pro Thr Ile Lys Gly Met Leu Gln Glu Lys
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ctt ttc caa gaa cgc atg aat caa cgc att gag gaa cta aga aag cac   981
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gct aaa att gtt atc aac aag taattgatga ggtgttatca tgttagttaa     1032
Ala Lys Ile Val Ile Asn Lys
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aggcaatgaa attttattga aagcccataa agaaggttat ggggtggggg cgtttaattt 1092
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Asp Gly Arg Pro Ile Thr Lys Ser Asp Phe Asp Met Ile Lys Gln Arg
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Val Lys Lys Gln Ala Leu Val Glu Phe Trp Ala Lys Lys Gln Ala Glu
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His Ile Leu Val Lys Thr Glu Asp Glu Ala Lys Arg Ile Ile Ser Glu
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Ile Asp Lys Gln Pro Lys Ala Lys Lys Glu Ala Lys Phe Ile Glu Leu
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Ala Asn Arg Asp Thr Ile Asp Pro Asn Ser Lys Asn Ala Gln Asn Gly
        175                 180                 185
Gly Asp Leu Gly Lys Phe Gln Lys Asn Gln Met Ala Pro Asp Phe Ser
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Lys Ala Ala Phe Ala Leu Thr Pro Gly Asp Tyr Thr Lys Thr Pro Val
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Lys Thr Glu Phe Gly Tyr His Ile Ile Tyr Leu Ile Ser Lys Asp Ser
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Pro Val Thr Tyr Thr Tyr Glu Gln Ala Lys Pro Thr Ile Lys Gly Met
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Met
1

gca aaa gaa aag ttt aac aga act aag ccg cat gtt aat att gga acc 168
Ala Lys Glu Lys Phe Asn Arg Thr Lys Pro His Val Asn Ile Gly Thr
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att ggg cat gta gac cat ggt aaa acg act ttg agt gca gcg att tca 216
Ile Gly His Val Asp His Gly Lys Thr Thr Leu Ser Ala Ala Ile Ser
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gcg gtg ctt tct ttg aaa ggt ctt gca gaa atg aaa gac tat gat aat 264
Ala Val Leu Ser Leu Lys Gly Leu Ala Glu Met Lys Asp Tyr Asp Asn
35 40 45

att gat aac gcc cct gaa gaa aaa gaa aga ggg atc act atc gct act 312
Ile Asp Asn Ala Pro Glu Glu Lys Glu Arg Gly Ile Thr Ile Ala Thr
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tct cac att gaa tat gag act gaa aac aga cac tat gcg cat gtg gat 360
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70 75 80

tgc cca gga cac gct gac tat gta aaa aac atg atc acc ggt gcg gcg 408
Cys Pro Gly His Ala Asp Tyr Val Lys Asn Met Ile Thr Gly Ala Ala
85 90 95

caa atg gac gga gcg att ttg gtt gtt tct gca gct gat ggc cct atg 456
Gln Met Asp Gly Ala Ile Leu Val Val Ser Ala Ala Asp Gly Pro Met
100 105 110

cct caa act agg gag cat atc tta ttg tct cgt caa gta ggc gtg cct 504
Pro Gln Thr Arg Glu His Ile Leu Leu Ser Arg Gln Val Gly Val Pro
115 120 125

cac atc gtt gtt ttc tta aac aaa caa gac atg gta gat gac caa gaa 552
His Ile Val Val Phe Leu Asn Lys Gln Asp Met Val Asp Asp Gln Glu
130 135 140 145

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gaa ttt cct ggc gat gac act cct atc gta gcg ggt tca gct tta aga 648
Glu Phe Pro Gly Asp Asp Thr Pro Ile Val Ala Gly Ser Ala Leu Arg
165 170 175

gct tta gaa gaa gca aag gct ggt aat gtg ggt gaa tgg ggt gaa aaa 696
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gtg ctt aaa ctt atg gct gaa gtg gat gcc tat atc cct act cca gaa 744

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                230                 235                 240

gtg aaa gta ggc gat gaa gtg gaa atc gtt ggt atc aga cct aca caa   888
Val Lys Val Gly Asp Glu Val Glu Ile Val Gly Ile Arg Pro Thr Gln
            245                 250                 255

aaa acg act gta acc ggt gta gaa atg ttt agg aaa gag ttg gaa aaa   936
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        260                 265                 270

ggt gaa gcc ggc gat aat gtg ggc gtg ctt ttg aga gga act aaa aaa   984
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    275                 280                 285

gaa gaa gtg gaa cgc ggt atg gtt cta tgc aaa cca ggt tct atc act   1032
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290                 295                 300                 305

ccg cac aag aaa ttt gag gga gaa att tat gtc ctt tct aaa gaa gaa   1080
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ggc ggg aga cac act cca ttc ttc acc aat tac cgc ccg caa ttc tat   1128
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gtg cgc aca act gat gtg act ggc tct atc acc ctt cct gaa ggc gta   1176
Val Arg Thr Thr Asp Val Thr Gly Ser Ile Thr Leu Pro Glu Gly Val
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gaa atg gtt atg cct ggc gat aat gtg aaa atc act gta gag ttg att   1224
Glu Met Val Met Pro Gly Asp Asn Val Lys Ile Thr Val Glu Leu Ile
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agc cct gtt gcg tta gag ttg gga act aaa ttt gcg att cgt gaa ggc   1272
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ggt agg acc gtt ggt gct ggt gtt gtg agc aat att att gaa           1314
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Thr Ser His Ile Glu Tyr Glu Thr Glu Asn Arg His Tyr Ala His Val
65   70   75   80
Asp Cys Pro Gly His Ala Asp Tyr Val Lys Asn Met Ile Thr Gly Ala
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Ala Gln Met Asp Gly Ala Ile Leu Val Val Ser Ala Ala Asp Gly Pro
            100   105   110
Met Pro Gln Thr Arg Glu His Ile Leu Leu Ser Arg Gln Val Gly Val
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Pro His Ile Val Val Phe Leu Asn Lys Gln Asp Met Val Asp Asp Gln
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Glu Leu Leu Glu Leu Val Glu Met Glu Val Arg Glu Leu Leu Ser Ala
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Tyr Glu Phe Pro Gly Asp Asp Thr Pro Ile Val Ala Gly Ser Ala Leu
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Arg Ala Leu Glu Glu Ala Lys Ala Gly Asn Val Gly Glu Trp Gly Glu
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Lys Val Leu Lys Leu Met Ala Glu Val Asp Ala Tyr Ile Pro Thr Pro
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Glu Arg Asp Thr Glu Lys Thr Phe Leu Met Pro Val Glu Asp Val Phe
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Ser Ile Ala Gly Arg Gly Thr Val Val Thr Gly Arg Ile Glu Arg Gly
225   230   235   240
Val Val Lys Val Gly Asp Glu Val Glu Ile Val Gly Ile Arg Pro Thr
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Gln Lys Thr Thr Val Thr Gly Val Glu Met Phe Arg Lys Glu Leu Glu
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Lys Gly Glu Ala Gly Asp Asn Val Gly Val Leu Leu Arg Gly Thr Lys
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Lys Glu Glu Val Glu Arg Gly Met Val Leu Cys Lys Pro Gly Ser Ile
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Thr Pro His Lys Lys Phe Glu Gly Glu Ile Tyr Val Leu Ser Lys Glu
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Glu Gly Gly Arg His Thr Pro Phe Phe Thr Asn Tyr Arg Pro Gln Phe
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Tyr Val Arg Thr Thr Asp Val Thr Gly Ser Ile Thr Leu Pro Glu Gly
            340   345   350
Val Glu Met Val Met Pro Gly Asp Asn Val Lys Ile Thr Val Glu Leu
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